

Metering Fuel Pump

Abstract

A device and method for controlling the flow of a gaseous fuel from a fuel supply to a pressurized combustion chamber. A fuel pump is included in the gas train from supply to chamber. The fuel pump increases the pressure of the gas to allow efficient injection into the chamber. The pump is modulated to control the fuel flow. Both alternating current and pulse-width-modulated direct current signals may be used to control the flow. The pump may be a piston pump or a diaphragm pump. Feedback may be provided from sensors that determine operating parameters of the engine and such sensor signals may be used by the controller to maintain a parameter, such as temperature, at a specified value. An acoustic filter can be included in the gas train to significantly reduce gas flow pulsations generated by the pump. This filter improves the uniformity of the combustion process.